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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,930	07/26/2005	Gordon Bryon Scott	550-668	8064

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EXAMINER	
PATEL, DHARTI HARIDAS	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/533,930	SCOTT ET AL.	
	Examiner	Art Unit	
	Dharti H. Patel	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 12* is/are rejected.

7)☒ Claim(s) *10 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/27/05, 5/4/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammer et al., Patent No. 6,392,422, in view of Bilac et al., Patent No. 4,672,501. With respect to claim 1 and 12, Kammer teaches a method and a device for monitoring insulation and fault current in an electrical alternating current network, the method comprising a sensing circuit 13 operable to sense values representing a phase difference between current and voltage; and a current amplitude; a comparison circuit 19 operable to compare the sensed values of phase difference and current amplitude with a reference value defining a fault conditions and non-fault conditions and to generate a fault indication signal when a fault condition arises; a fault discriminator 21 operable in response to said fault indication signal to generate a fault identifying signal discriminating between; a first class of fault in which a mean current value after the fault indication increases relative to a mean current value before the fault indication as disclosed in Col. 3, a second class of fault (leakage current type fault) in which a mean current value after the fault indication does not increase relative to a mean

current value before the fault indication as disclosed in lines 66-67, Col. 4, lines 1-7 and Fig. 1.

However, Kammer fails to teach or suggest a trip signal generator responsive to the fault identifying signal and operable to generate the trip signal.

Bilac et al. teaches a circuit breaker and protective relay unit. Bilac teaches a trip signal generator responsive to the fault identifying signal and operable to generate the trip signal as disclosed in Col. 1, lines 39-43.

Both teaching are related by being protective circuit breakers and related tripping signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bilac, which teaches a trip signal generator, into the device of Kammer to produce a device capable of offering circuit protection, triggered by a variety of inputs to prevent damage and/or injury to equipment and users.

With respect to claim 2, Bilac et al. teaches that the alternating current power line carries a three phrase alternating current power supply as disclosed in Fig. 1.

With respect to claim 3, Bilac et al. teaches that the trip signal generator generates a trip signal when the fault identifying signal identifies the fault detection as disclosed in Col. 1, lines 39-43 and Col. 2, lines 62-63. Kammer et al. teaches that fault indication is due to the first class of fault occurring as disclosed in Col. 4, lines 4-7.

With respect to claim 4, it is understood that Kammer's fault would have to be a short circuit or similar to generate the fault current signal (Col. 4, lines 3-7) to trip the load switch for protection.

With respect to claim 5, there are only two types of general short circuits, phase to phase or phase to ground, it would be conventional practice for one of ordinary skill in the art to substitute one for the other.

With respect to claim 6, Kammer teaches that the fault identifying signal identifies that the fault condition is due to the second class of fault occurring as disclosed in Col. 4, lines 4-7. Bilac et al. teaches that the trip generator generates a trip signal. With regard to the limitation of fault condition persisting for longer than a predetermined time, it is conventional practice in the art to delay protective trapping for a set time period, if the fault generated is such that no immediate damage will occur but damage could occur if the fault is prolonged.

With respect to claim 7, Kammer teaches that the fault identifying signal identifies that the fault condition is due to the second class of fault (leakage current type fault) occurring. With regard to the limitation of a first state and a second state, Kammer's invention generates two response values, a lesser current magnitude and a greater current magnitude for a reference comparison. If the limit is exceeded, the load is shut off and protected as disclosed in Col. 2, lines 48-55.

With regard to the limitation of first state due to switchgear series arcing in claim 8, this is a known phenomenon for load switching circuits wherein the current level spikes during switching, and then returns to normal after switching.

With respect to claim 9, Bilac et al. teaches that the trip signal generator generates a trip signal when the fault identifying signal identifies the fault detection as disclosed in Col. 1, lines 39-43 and Col. 2, lines 62-63. Kammer et al. teaches that fault indication is due to the second class of fault (leakage current type fault) occurring.

Allowable Subject Matter

2. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for indicating allowance of claim 10: Kammer teaches a second state of fault but does not disclose that the second condition is an increase in the resistance of a circuit comprising the power line in combination with the trip signal generator of claim 9.

3. ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DHP
11/23/2005

PHUONG T. VU
PRIMARY EXAMINER